

Information on

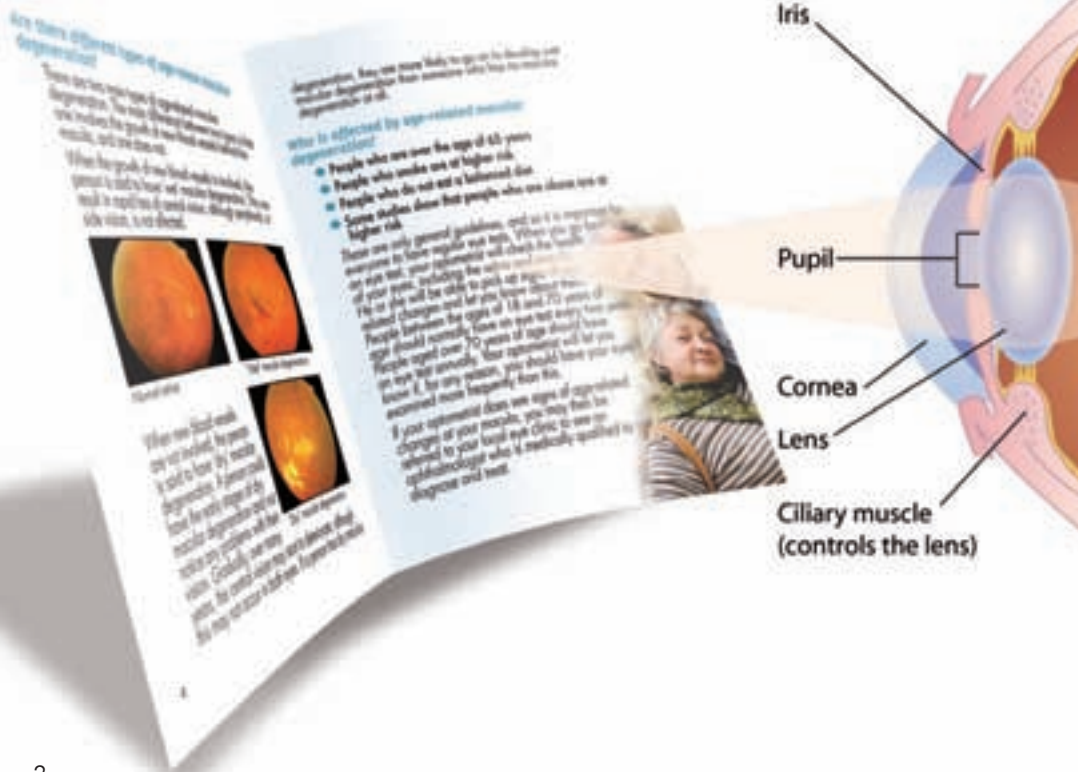
*Age-Related
Macular
Degeneration
and Nutrition*



Age-Related Macular Degeneration (ARMD)

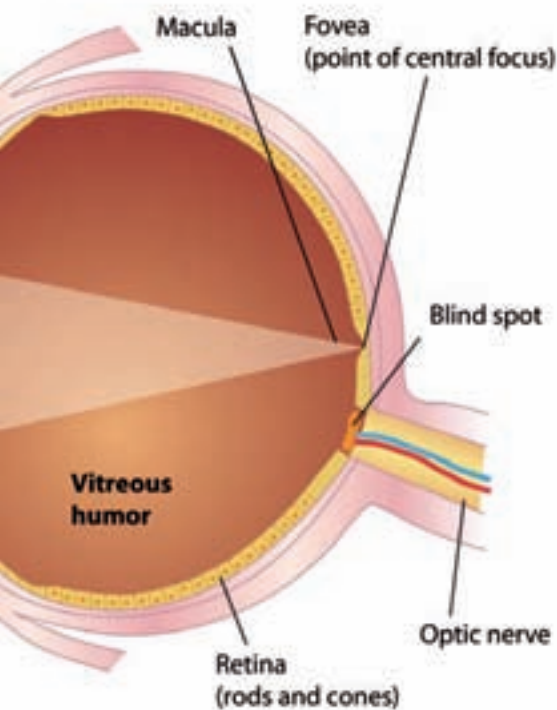
What is the macula?

The macula forms part of the retina, which is a layer of nerve cells that lines the inside of the eye. The macula is located at the back of the eye and is made up of many light-sensitive cells. These cells produce our vision and help us to complete detailed tasks such as writing and looking at photographs.



What is age-related macular degeneration?

This condition occurs when the support cells that help the light-sensitive cells at the macula function effectively become less efficient. This leads to a build up of waste materials at the macula, which can eventually affect central vision.



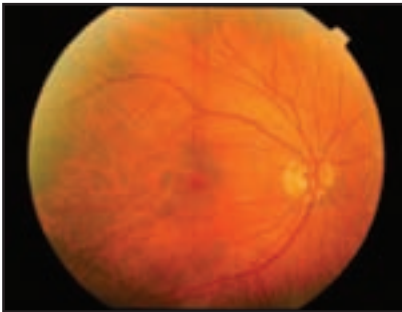
'Age-related macular degeneration is the leading cause of legal blindness in those over the age of 65 years in westernised countries.'



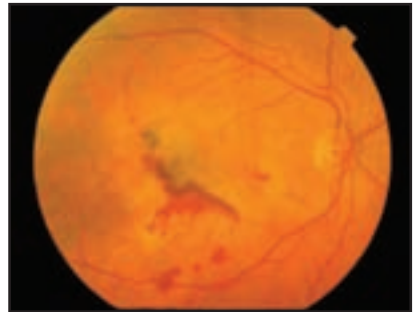
Are there different types of age-related macular degeneration?

There are two main types of age-related macular degeneration. The main difference between the two types is that one involves the growth of new blood vessels behind the macula, and one does not.

'Wet' macular degeneration occurs when leaky new blood vessels develop. This can result in rapid loss of central vision, although peripheral or side vision is not affected.

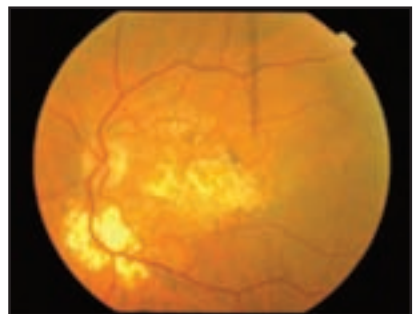


Normal retina



"Wet" macular degeneration

'Dry' macular degeneration results from slow progressive age change. A person could have the early stages of dry macular degeneration and not notice any problems with their vision. Gradually, over many years, the central vision may start to deteriorate, although this may not occur in both eyes.



"Dry" macular degeneration

If a person has dry macular degeneration, they are more likely to go on to develop wet macular degeneration than someone who has no macular degeneration at all.

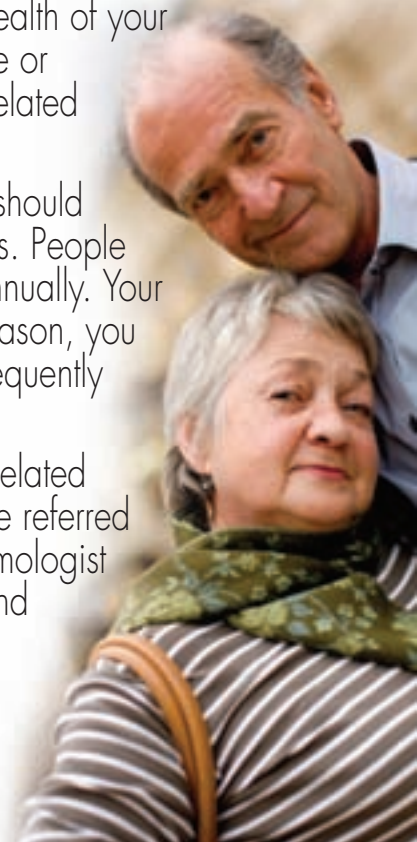
Who are at greater risk from age-related macular degeneration?

- People over 65 years of age
- People who smoke
- People without a balanced diet
- People who suffer from obesity

These are only general guidelines, and so it is important for everyone to have regular eye tests. When you go for an eye test, your optometrist will check the health of your eyes, including the retina and macula. He or she will be able to pick up signs of age-related changes and let you know about them.

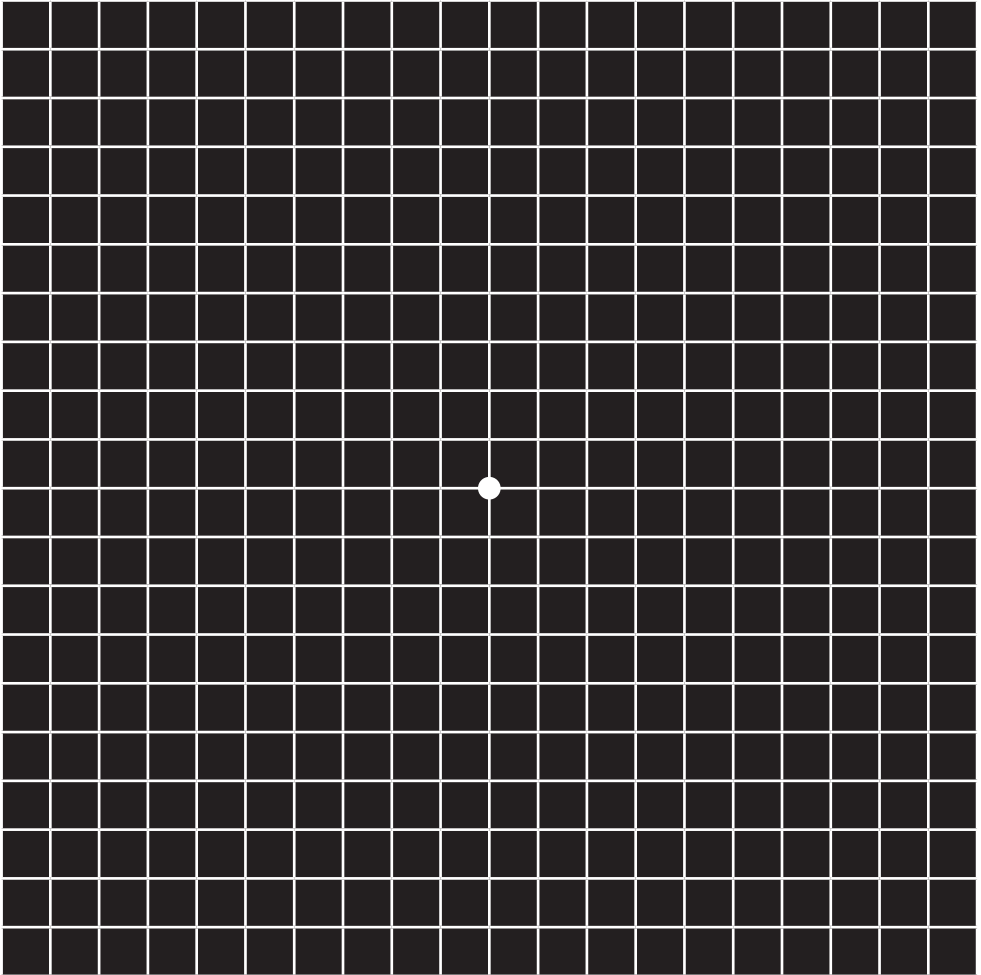
People between the ages of 18 and 70 should normally have an eye test every two years. People aged over 70 should have an eye test annually. Your optometrist will let you know if, for any reason, you should have your eyes examined more frequently than this.

If your optometrist does see signs of age-related changes at your macula, you may then be referred to your local eye clinic to see an ophthalmologist who is medically qualified to diagnose and treat.



The Amsler grid -

This Amsler grid allows you to test your vision at home, just follow these simple instructions:



- 1 If you need to wear glasses for close work, including reading, put them on.
- 2 Hold the grid at around 30cm (roughly 12 inches) from your eyes and look at the dot at the centre of the grid.
- 3 Adjust the position of the grid, so that, as you are looking at the central dot, you can also see all four corners of the grid.
- 4 Keep looking at the central dot but check that all the lines of the grid appear straight and even, and that none of the lines are missing.
- 5 Repeat with the other eye.
- 6 Check the Amsler grid in this way every few weeks. If you notice that the lines have become distorted or wavy, or broken, contact your optometrist or eye specialist straight away. You should also contact your optometrist or eye specialist straight away if you notice any deterioration in your vision.



What can I do to reduce my risk of developing age-related macular degeneration?

- **Do not smoke**

- **Protect your eyes from exposure to too much light by wearing brown tint sunglasses or a wide-brimmed hat on sunny days**

- **Eat at least five portions of fruit and dark green vegetables per day**

- **Limit eating red meat with fat**

- **Adopt a healthy lifestyle by taking regular exercise and maintaining a healthy weight**





Are there any special foods that I can eat to try and reduce my risk of developing age-related macular degeneration?

Try to eat five portions of fruit and dark green vegetables per day.

There are particular nutrients, called lutein and zeaxanthin, that are thought to be useful in protecting the macula. These nutrients are not made within the body, and so are only obtained from what we eat. Foods such as spinach and kale contain relatively high levels of lutein and so it is useful to try and include these foods in your diet on a regular basis.

I already have 'wet' ARMD, and my vision has been severely affected. Are there any foods that can reduce the chance of my condition progressing?

If you have 'wet' ARMD it is very unlikely that eating any particular foods will improve your vision.

However, it is important to have a balanced diet for your general health, and you should try to eat at least five portions of fruits and vegetables per day.

I have early stages of ARMD. Are there any foods that I can eat to reduce the chance of my condition progressing?

Lutein and zeaxanthin collect at the macula and are thought to protect the cells there from the damaging effects of light, as well as by acting as an antioxidant.

The table on pages 12 & 13 shows how much lutein is obtained from one cup of different food sources.

Information about nutritional supplements

Research shows that nutrition may play a vital role in the health of eyes and may prevent or slow down macular degeneration.

If you want to increase your intake of lutein and zeaxanthin, but cannot increase your intake of vegetables, especially green leafy vegetables very easily, you could consider taking a supplement.

When choosing a supplement, bear in mind the following:

10 mg of lutein has been shown to be beneficial.

Lutein may be easier to digest if it is combined with fats or oils, such as Omega3.

Furthermore if you only have one eye affected by ARMD you must protect the other and reduce chances of converting to wet macular degeneration.

Some supplements are not suitable for people who smoke or have been smokers, Nutrof Total has been carefully formulated to be safe for everyone, if you are wishing to take others you must check first with a healthcare professional.



Foods Containing high levels of lutein & zeaxanthin

Food

Frozen spinach, chopped or leaf, cooked, boiled, drained, w/o salt

Canned spinach, drained solids

Cooked spinach, boiled, drained, w/o salt

Frozen kale, cooked, boiled, drained, w/o salt

Cooked Kale, boiled, drained, w/o salt

Summer squash, all varieties, cooked, boiled, drained, w/o salt

Winter squash, all varieties, cooked, baked, w/o salt

Green peas, frozen, cooked, boiled, drained, w/o salt

Green peas, canned, regular pack, drained solids

Edible podded peas, boiled, drained, w/o salt

Cooked pumpkin, boiled, drained, w/o salt

Yellow sweet corn, canned, vacuum pack, regular pack

Yellow sweet corn, frozen, kernels cut off cob, boiled, drained, w/o salt

Cooked brussels sprouts, boiled, drained, w/o salt

Frozen broccoli, chopped, cooked, boiled, drained, w/o salt

Cooked broccoli, boiled, drained, w/o salt

Raw broccoli

Raw butterhead lettuce (includes boston & bibb types)

Frozen asparagus, cooked, boiled, drained, w/o salt

Cooked carrots, boiled, drained, w/o salt



Weight (g)	Common measure (cups)	Lutein & zeaxanthin content per measure (mg)
190	1	30
214	1	23
180	1	20
130	1	26
130	1	24
180	1	4
205	1	3
160	1	4
170	1	2
160	1	1
245	1	2.5
210	1	2
164	1	1
156	1	2
184	1	2.015
156	1	1.685
88	1	1.235
163	1	1.993
180	1	1.112
156	1	1.072

If you already have ARMD here are some useful tips:

- 1 Make sure you wear brown tint sunglasses and/or a wide-brimmed hat when you are outside on sunny days.
- 2 Ask your bank, gas and electricity suppliers if they can send you large-print bills.
- 3 When carrying out detailed tasks, make sure that you have a portable lamp that you can angle directly on to the page. Lighting will make a big difference to how easily you can perform these tasks, but the light source must be very close to the task itself.
- 4 If your friends and family write letters to you, ask them to use a large print size if they use a word processor, or to use a thick black pen if they write by hand.
- 5 Ask your optometrist or ophthalmologist if they can refer you for a low vision assessment. This means that you will be advised about aids that may help you to carry out every day tasks.
- 6 Help improve your low vision with magnifiers and vision aids from Vision Enhancers, visit www.visionenhancers.co.uk or Tel: 01794 388468
- 7 Think about getting in touch with the Macular Disease Society www.maculardisease.org and joining one of their local groups. Tel: 0845 241 2041



NUTROF TOTAL

Eye nutritional

NUTROF TOTAL is a combination of vitamins, anti-oxidants and Omega3 designed to offer sufferers of ARMD the most up to date formula to protect eyesight.

EASY TO TAKE
ONE
A DAY
FORMULA

WITH
OMEGA
3



Antioxidants + (Lutein + Zeaxanthin) + Omega3 + Resveratrol



High quality purified Lutein, FloraGLO

Omega 3 free from Dioxin and heavy metals

Natural Vitamin E from Soy Beans


SpectrumThea

To order call: 0845 521 1290
or order online:
www.spectrumthea.co.uk

www.nutrof-store.co.uk



Vision Enhancers

www.visionenhancers.co.uk

Tel: 01794 388468



Macular
Disease
Society

The Macular Disease Society

www.maculardisease.org

Tel: 0845 241 2041



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